

IN THE CLAIMS

Please add claims 29-34 and amend claims 1, 8 and 13 as indicated below.

1. (Currently Amended) A system for managing packets incoming to a data router comprising:

a local packet memory (LPM) mapped into pre-configured memory units, to store packets for processing;

an external packet memory (EPM) for storing overflow data which is not storable by said LPM;

a first storage system coupled to said LPM, to determine a size of said packets to be stored in said LPM, and for determining whether said packets can be stored in said LPM, wherein in determining whether said packets can be stored in said LPM, the first storage system is configured to consider unallocated portions of the local packet memory in increments of one or more fixed sizes; and

a second storage system coupled to said first storage system, for receiving an indication from said first storage system when it cannot store said packets in said LPM, and for storing said packets in said EPM;

wherein said first storage system attempts to store all said packets in said LPM, and for those packets that are not storable within said LPM, relinquishes control to said second system, which stores said packets in said EPM; and

wherein said system is configured to adjust said one or more fixed sizes to include more or fewer fixed size increments which may be considered by the first storage system when the first storage system considers whether said packets can be stored in the LPM.

~~wherein said system evaluates a size of said pre-configured memory units based on the size of said packets, and resizes a size of allocated memory units to minimize fragmentation.~~

2. (Previously Presented) The system of claim 1 wherein said first storage system is hardware controlled and said second storage system is software-controlled.

3. (canceled)

4. (Previously Presented) The system of claim 1 wherein the data router is connected to and operates on the Internet network.

5. (Previously Presented) The system of claim 1 wherein the data router is connected to and operates on a corporate wide-area-network (WAN).

6. (Previously Presented) The system of claim 2 wherein the first storage system is implemented as an integrated circuit (IC) or IC chip set.

7. (Previously Presented) The system of claim 1 wherein said first storage system provides a memory address [beginning address of location in EPM] to said second storage system if said packets cannot be stored in said EPM.

8. (Currently Amended) A data packet router comprising:

external ports to receive and send data packets from and to neighboring connected routers; and

a system coupled to said external ports, for managing said packets incoming to a data router, the system comprising: a local packet memory (LPM) mapped

into pre-configured memory units, to store packets for processing, each of said pre-configured memory units being resizable by said system;

an external packet memory (EPM) for storing overflow data which is not storable by said LPM;

a first storage system coupled to said LPM, to determine the size of said packets to be stored in said LPM, for determining whether said packets can be stored in said LPM, and to store packets in said LPM, wherein in determining whether said packets can be stored in said LPM, the first storage system is configured to consider unallocated portions of the local packet memory in increments of one or more fixed sizes; and

a second storage system coupled to said first storage system, for receiving an indication from said first storage system when it cannot store said packets in said LPM and for storing said packets in said EPM;

wherein said first storage system attempts to store all said packets in said LPM, and for those packets that are not storable within said LPM, relinquishes control to said second system, which stores said packets in said EPM; and

wherein said router is configured to adjust said one or more fixed sizes to include more or fewer fixed size increments which may be considered by the first storage system when the first storage system considers whether said packets can be stored in the LPM.

~~wherein said system evaluates the size of said pre-configured memory units based on the size of said packets, and resizes said memory units to minimize fragmentation.~~

9. (Previously Presented) The router of claim 8 wherein said first storage system is hardware-controlled and said second storage system is software-controlled.

10. (canceled)

11. (Previously Presented) The router of claim 8 wherein the data router is connected to and operates on the Internet network.

12. (Previously Presented) The router of claim 8 wherein the data router operates on a corporate wide-area-network.

13. (Currently Amended) A method for managing packets incoming to a data router, comprising the steps of:

attempting to store all incoming packets, by a first storage system, into a local packet memory (LPM) that is mapped into preconfigured but resizable memory units;

determining whether incoming packets are storable within the LPM, wherein said determining comprises considering unallocated portions of the local packet memory in increments of one or more fixed sizes;

relinquishing packets not storable within the LPM to a second storage system;

storing the packets not storable within the LPM in an external packet memory by a second storage system; and

adjusting said one or more fixed sizes to include more or fewer fixed size increments which may be considered by the first storage system when the first storage system considers whether said packets can be stored in the LPM.

~~examining the size of the packets to determine whether the memory units should be resized to reduce fragmentation.~~

14. (Previously Presented) The method of claim 13 wherein the first storage system is hardware controlled and the second storage system is software controlled.

15. (Previously Presented) The method of claim 13 wherein in the data router is connected to and operates on a corporate wide-area-network (WAN).

16. (canceled)

17. (Previously Presented) The method of claim 13 wherein the first and second storage systems are implemented as an integrated circuit (IC) or IC chip set.

18. (Previously Presented) The method of claim 17 wherein in step (c) the second storage system is software-controlled.

19-28. (canceled).

29 (New). The system of claim 1, wherein said system is configured to adjust said one or more fixed sizes based at least in part on a size of said packets.

30. (New) The system as recited in claim 1, wherein the first storage system is configured to consider unallocated portions of the local packet memory in increments of two or more fixed sizes in parallel.

31 (New). The router of claim 8, wherein said router is configured to adjust said one or more fixed sizes based at least in part on a size of said packets.

32. (New) The router as recited in claim 8, wherein said router is configured to consider unallocated portions of the local packet memory in increments of two or more fixed sizes in parallel.

33. (New). The method of claim 13, wherein adjusting said one or more fixed sizes is based at least in part on a size of said packets.

34. (New) The method of claim 13, further comprising considering unallocated portions of the local packet memory in increments of two or more fixed sizes in parallel.